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KRIVROY ROG MINES MECHANIZE,
BUT LAG IN PRODUCTION

DIRECTORS RESPONSIBLE FOR SLUMP -- Pravda, 11 Aug 50

In the first half of 1950, the Krivoy Rog Iron Ore Basin owed many thou- sand tons of ore by failing to meet its production plan, and this lag natu- rally has affected many metallurgical plants of the South and Center. The substantial inner reserves of the basin have not yet been utilized. The new mining technology is not being used at full capacity. At the "Novaya" Mine of the Mine Administration imeni R. Lyuksemburg, loading machines often lay idle due to delays in getting empty cars to the stopes. At a number of mines the compressed-air mains are in poor condition and repairs do not conform to schedule, with the result that the supply of compressed air to the drill ham- mers is irregular and the productivity of the drillers reduced. The workers' attitude toward machine equipment is not good and is the direct result of a general lack of responsibility for tools, an attitude which is rooted in the Krivbass (Krivoy Rog Basin).

Directors of the "Krivbassruda" Trust limit their action against this evil by protests in conferences and worker sessions. Most responsible in this administrative negligence is Nedin, chief of the trust's technical de- partment, and Pozul'skiy, senior engineer in the same department.

Mine development operations are in a serious slump. In the first half of 1950, the Mine Administration imeni R. Lyuksemburg completed only 63 per- cent of the plan for development work. Again, the trust and mine administra- tion directors have taken no responsibility for the shortcomings. Vegner, chief of the UKS (Upravleniye Kapital'nogo Stroitel'stva, Administration of Capital Construction) is one of the chief offenders in this failure of mine development plans.

The efforts of leading workers are not getting the attention they de- serve. The number of shaft-sinking brigades operating at high speed has re- cently decreased by almost one third. At the Mine Administration imeni R. Lyuksemburg, the sinking brigades are high speed in name only, since each brigade advances less than 2 running meters per day. No one at the basin or in the mines is taking the leadership for promotion of high-speed campaigns or other advanced methods of work.

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The mechanization of such labor-consuming operations as the collection of ore and wet drilling are going extremely slowly.

MINES ACHIEVE HIGH MECHANIZATION LEVEL -- Gornyy Zhurnal, No 7, Jul 50

In 1949, the Krivoy Rog Mines exceeded the prewar level of mechanization. The following table shows comparative data on mechanization of basic mine processes:

Table 1.

<u>Type of Work</u>	<u>Mechanization Level (%)</u>		
	<u>1940</u>	<u>1949</u>	<u>Planned for 1950</u>
Drilling	100.0	100.0	100.0
Removal of ore (dostavka)	85.9	93.1	96.0
Underground haulage	86.9	93.7	98.0
Surface haulage	89.3	95.8	98.0
Loading ore into railroad cars	96.0	98.3	99.0
Loading in development workings	--	51.9	78.0

With the wide use in the mines of pneumatic support columns, automatic feeders, telescopic hammers, and drill carriages, drilling had been automatized 91.21 percent as of 1 January 1950. At the following mines, drilling is 100 percent automatized: "Novaya" Mine of the Mine Administration imeni K. Libknekht, "Kapital'naya" Mine of the "Zheltaya Reka" Mine Administration, Mine imeni Ordzhonikidze of the "Zheltaya Reka" Mine Administration, and "Tsentral'naya" Mine of the Mine Administration imeni Frunze. In 1950, drilling will be made 100 percent automatic in all mines of the basin. At present, wet drilling is being adopted with good results and has been introduced in all mines.

Substantial qualitative changes have been effected by the introduction of more powerful scraper winches with 20 to 30-kilowatt motors, heavy-duty electric locomotives with the weight on drivers of 10 tons, 5 to 6-ton mine cars, excavators for loading railroad cars, and others.

In 1949 and the first half of 1950, the park of mine machines and mechanisms increased over the prewar period, and the equipment has improved in quality. The mines are now using the more powerful drill hammers designed for wet drilling. Loading machines for mechanization of the removal of rock and ore in development workings are having wide circulation throughout the basin. The mines are also equipped with modern transport facilities.

The following new types of machines were tested in 1949 and introduced into mining operations: NIGRI-4 drill machines, percussion-cable drill machines, VCh-1 pneumatic loaders for collecting rock during sinking of shafts, mechanical installations for unloading timber from railroad cars, pneumatic closing devices

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for mechanization of loading from the manways, automatic ventilating doors, automatic switches, PK-12, PPK-17, and PPK-21 pneumatic support columns, drill carriages, ventilators, dust absorbers, mechanical chargers for vertical deep-hole drilling, new and improved types of PR-35, PR-51, and PT-30 drilling machines, and others.

The Mine imeni Ordzhonikidze is testing a drill-assembling machine for use in advancing raises. The "Severnaya" Mine of the Mine Administration imeni Kirov has complete all auxiliary structures for and has begun tests of a large grab bucket for removing rock in advancing a vertical shaft. The rock will be brought directly from the face to the surface by the bucket. The work of drilling in advancing the shaft will be completely mechanized. A ventilation shaft at the "Gleyevatka" No 1 Mine of the Mine Administration imeni Frunze is being sunk by a shift-drilling machine.

Loading and unloading of materials in the shafts and on the surface, haulage of materials and equipment in sublevel workings, and some auxiliary processes such as delivery of supports to sublevels, shunting operations in the shafts, removal of ore through the manways, and apportioning of ore into railroad cars, are all not sufficiently mechanized. Timbering of various workings and crushing of oversize pieces of ore in screening areas and on accumulation (akkumuliruyushchiye) levels are completely unmechanized.

The lag in mechanizing such operations is explained by the length of time involved in the design, production, and testing of new machines, and in some cases by the insufficient utilization of existing machines which have already been tested and recommended, such as the VCh-1 and PML-4 loading machines, cable and pole installations for unloading timber, and others.

In 1950, it is planned to increase sharply the mechanization of operations which are either little mechanized or completely unmechanized. However, the wide utilization of basic machines and the achievement of a high level of mechanization of individual operations (see Table 1) is still not adequate to meet the demands on the basin for increased iron-ore output. There should be a conversion to complete mechanization of the entire technological process of mining ore.

One step toward achievement of full mechanization of the basin's mines was the conversion in 1949 of the "Komintern" Mine, Mine imeni Kirov, and the "Novaya" Mine of the Mine Administration imeni K. Libknekht and the "Kommunar" Mine of the Mine Administration imeni Dzerzhinskiy, to full mechanization. The basic production processes were mechanized according to a standard plan drawn up by "Krivbassproyekt" (Krivoy Rog Basin Planning) for the "Komintern" Mine.

It soon became clear that for successful adoption of complete mechanization, technical plans for all four mines and working plans for production of new-model mining machinery needed to be drawn up. The delay in the planning work, because of the newness and complexity of the problems involved, and the lack of the necessary machine-design base, retarded the progress of complex mechanization. The technical plan for the "Komintern" Mine was completed in May 1949, and somewhat later for the other three mines. Despite the planning lag, work went ahead in the mines on mechanizing basic and auxiliary operations by extensive use of already tested machines. In 1949, the mechanical equipment in these mines increased considerably over 1948, and underground and surface haulage was 100 percent mechanized. Table 2 shows the increase in the mechanization of basic operations in 1949, with the 1948 level taken at 100 percent:

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Table 2

<u>Mine</u>	<u>Ore Removal from Working Faces</u>	<u>Loading in Develop- ment Workings</u>	<u>Ore Removal from Cutting (nareznyye) Workings</u>
"Komintern"	104.5	134.3	135.8
"Novaya"	107.5	941.0	101.0
Imeni Kirov	102.0	229.0	107.8
"Kommunar"	102.9	166.8	120.0

Table 3 shows the increase in labor productivity during 1949, with 1948 as 100 percent:

Table 3

<u>Mine</u>	<u>Driller</u>	<u>Increase in Labor Productivity (%)</u>		
		<u>Scraper Operator</u>	<u>Stoping Group</u>	<u>Per Worker at Railroad Loading Trestle</u>
"Komintern"	116.8	119.8	127.6	123.0
"Novaya"	129.9	106.1	127.3	124.0
Imeni Kirov	114.8	116.5	119.8	120.0
"Kommunar"	101.8	117.2	122.4	126.0

The following difficulties were encountered in converting the four mines to complex mechanization:

1. Lag in planning and designing new models of mining machines necessary for full mechanization of the entire cycle of mining operations.
2. Insufficient rate of production and adoption of new models of machines by "Kommunist" Plant.
3. Unsatisfactory supplies of machines and electric motors which had already been adopted to production.
4. Insufficient utilization of existing equipment at certain mines.

The continual increase in basic production and the wide adoption of mechanization demand a radical reconstruction of the design, production, adoption to production, and the utilization of new machines. In 1950, the categories of new models of machines planned for complex mechanization of the mines must be increased sharply, and the production of these machines must be adopted successfully. Series production of the new models tested in 1949 should be organized and on a scale sufficient to meet the mines' requirements fully. Together with this, the output of machines already widely used in the mines should be considerably increased.

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For the future development and completion of complex mechanization, the design, experimental, and machine-building base of the Krivbass should be expanded. The Ministry of the Metallurgical Industry must give its assistance to this end.

The technical policy of mechanization of the entire technological cycle in the Krivbass is directed mainly to the following:

1. Achievement of full mechanization of basic labor-consuming operations by already tested methods with the use of machines adopted to production and in the process of production at plants.
2. Maximum mechanization of auxiliary operations.
3. Development of plans and new models of machines for extensive mechanization of those sectors of the basic and auxiliary operations which are not now mechanized or only slightly mechanized.
4. Wide utilization of remote control of machine equipment.
5. Maximum automatization of basic and auxiliary processes and dispatcher services.

For successful completion of the first two points, the "Kommunist" and Automobile Repair Plants and the Central Machine Shops of the "Krivbassruda" Trust must organize output of machines and equipment in sufficient quantity to meet all requirements of the mines.

To meet the third point, the "Krivbassproyekt," "Kommunist" Plant, TsKB [Central Design Bureau?] of "Glavmashmet" [Main Administration of Machine Building for the Metallurgical Industry?], and the "Krivbassruda" Trust should speed development of working drafts of new models of machines designed for complex mechanization as well as the production and testing of experimental models and organization of their series production. Included among these machines are: 1950 models of PR-24, PT-32, PR-32, PT-50, PK-42, PK-50, PK-60, PT-62 drilling machines; incline drilling machines; mechanical charger for deep-hole drilling; scraper winches; loading machine with conveyer; inclined block hoist for hoisting workers, equipment, and materials on sublevels; cars for transport of workers; car-cleaning machines; device for automatic unloading of tippie cars; mobile machine for hoisting and laying timbering material in shafts and other workings; motor cart (elektrokar) for transporting materials and equipment throughout the workings; machine for unloading cement and other loose materials from railroad cars; suspension-type drill carriage for use in advancing and sinking shafts; automatic ventilation doors for haulage ways; remote control mechanisms for scraper winches; switches, ventilators, and other machines. At the same time, the Ministry of the Metallurgical Industry should provide uninterrupted supply to the mines of special apparatus and devices needed for automatization of production processes and dispatcher services.

Together with the development of mechanization, improved methods of working have been introduced in the basin. The use of deep-hole drilling, in comparison with other systems used in the basin, is helping to decrease the percent of cutting work and to increase considerably the productivity of the driller and stoping workers, while at the same time providing safer working conditions. The elimination of the screening levels, conversion to the use of accumulation levels in mining by the block caving or the block and sublevel caving systems combined, as well as by other systems, has created favorable prospects for the use of heavy-duty scraper winches and heavy-duty electric locomotives and cars, and has helped to increase productivity of intramine transport.

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The mechanization of the hoisting of men, materials, and equipment in sublevel workings and the wide use of accumulation workings in blocks are helping to provide a further increase in the height of the level, to simplify the method of stripping and development of levels and blocks, to decrease sharply the volume of labor-consuming development work, and to open a new stage in mechanization with the use of larger and more powerful equipment.

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